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CRUISE REPORT

U.S. GEOLOGICAL SURVEY  
OFFICE OF MARINE GEOLOGY  
WOODS HOLE, MASSACHUSETTS 02543

MIDDLE ATLANTIC OCS

R/V ANNANDALE

CRUISE AN-1-77

SEPTEMBER 18-25, 1977

## INTRODUCTION

A cruise aboard the R/V ANNANDALE by the U.S. Geological Survey, Office of Marine Geology, Woods Hole, Massachusetts was conducted within the Baltimore Canyon Trough area from September 18 to September 25, 1977. The Baltimore Canyon Trough (Fig. 1) is a structural depression which underlies the middle and outer continental shelf off the coasts of New Jersey, Delaware, and Maryland; it is considered a likely area for petroleum exploration and possibly production in the near future.

On the ANNANDALE cruise (AN-1-77), the prime objective was to obtain a set of vibracores at selected locations across the continental shelf. Core stations were selected so as to maximize our chances of sampling the muddy horizon beneath the surficial sand sheet. Geotechnical measurements (including grain size, liquid/plastic (Atterberg) limits, moisture content, and consolidation/compression tests) subsequently will be made on samples from the muddy stratum.

The set of cores also was taken to provide the necessary sediments for age dating. In the laboratory, suitable material (shells, organic carbon, wood fragments) will be extracted from the cores and sent to Reston, Virginia for radiocarbon analyses.

Finally, additional seismic records (Minisparker) were collected as time and weather permitted. In this regard, we ran a number of lines across the broad sedimentary terrace that lies just south of Hudson Channel. The profiles that were obtained will be used to infer the origin of the terrace and possibly to evaluate geologic hazards along a potential pipeline corridor into New York and New Jersey.



10. Activities summary - The poor weather encountered during the cruise brought to light the problem of using a relatively small ship to do heavy work on the high seas during a period of the year when the weather is quite variable. Although the R/V ANNANDALE is quite seaworthy, it was marginally stable as a platform when large waves (sea or swell) were present in the area of operations. The large waves caused the ship to pitch greatly, thereby increasing the chances for personal injury, damage to the ship, and loss of the vibracore rig itself. The experience on this cruise has shown us that: (1) we should be using a relatively large ship for operations such as vibracoring on the OCS; and (2) we should select those times of the year (June-July) when the weather is most suitable for heavy operations.
  
11. Tabulated information -
  - Number of days at sea = 7
  - Minisparker lines = 377 km
  - Number of vibracore stations = 17
  - Number of vibracores = 20
  - Station data = (See attached Table 1)
  
12. Track chart - Figure 3 is a chart showing the tracklines along which Minisparker records were obtained.
  
13. Addenda - Copies of the bridge notes and the Chief Scientist's log are attached.

Table 1. -- Vibracore statistics, Cruise AN-1-77, September 18-25, 1977

Station number	Core number	Date	Time (EDT)	Latitude		Longitude		Loran-C		Water Depth (m)	Core Length (m)
				Deg.	Min.	Deg.	Min.	Nantucket (Y)	Dana (Z)		
4900	VC-01	9-19	1447	39 ✓	57.93	73	34.74	51128.06	69993.11	39.3	0.6
4900	VC-02	9-19	1558	39 ✓	57.95	73	34.76	51128.00	69993.06	39.3	4.8
4901	VC-03	9-19	1737	39 ✓	51.94	73	37.31	51193.60	70021.59	35.4	2.2
4902	VC-04	9-20	0832	39 ✓	47.00	73	36.24	51226.83	70052.23	38.7	5.9
4903	VC-05	9-20	1040	39 ✓	44.51	73	29.31	51200.75	70081.43	43.0	6.1
4904	VC-06	9-20	1320	39 ✓	46.78	73	18.29	51107.49	70091.62	43.3	4.0
4905	VC-07	9-20	1517	39 ✓	39.59	73	18.88	51171.73	70131.10	42.4	3.6
4906	VC-08	9-20	1734	39 ✓	31.63	73	21.00	51253.64	70172.10	36.6	1.5
4907	VC-09	9-21	1527	39 ✓	31.06	73	12.64	51202.62	70191.73	44.8	2.0
4908	VC-10	9-22	1231	39 ✓	33.44	73	01.15	51105.21	70200.21	69.8	2.6
4908	VC-11	9-22	1306	39 ✓	33.46	73	01.17	51105.10	70200.04	69.8	2.6
4909	VC-12	9-22	1455	39 ✓	26.92	73	05.81	51192.96	70228.06	67.1	2.9
4909	VC-13	9-22	1533	39 ✓	26.92	73	05.79	51192.82	70228.10	67.1	1.8
4910	VC-14	9-22	1744	39 ✓	19.65	73	08.01	51271.41	70265.13	65.6	2.6
4911	VC-15	9-23	0721	39 ✓	20.03	73	32.31	51429.22	70216.45	48.8	1.8
4912	VC-16	9-23	0840	39 ✓	15.72	73	36.01	51491.31	70234.22	46.7	4.0
4913	VC-17	9-23	1015	39 ✓	08.71	73	33.25	51534.95	70280.84	50.6	2.2
4914	VC-18	9-23	1152	39 ✓	07.79	73	25.27	51490.57	70301.40	56.4	3.9
4915	VC-19	9-23	1355	39 ✓	16.62	73	28.44	51433.36	70243.93	50.6	2.9
4916	VC-20	9-23	1552	39 ✓	20.77	73	17.81	51326.40	70240.34	51.2	1.0

Fig. 1.

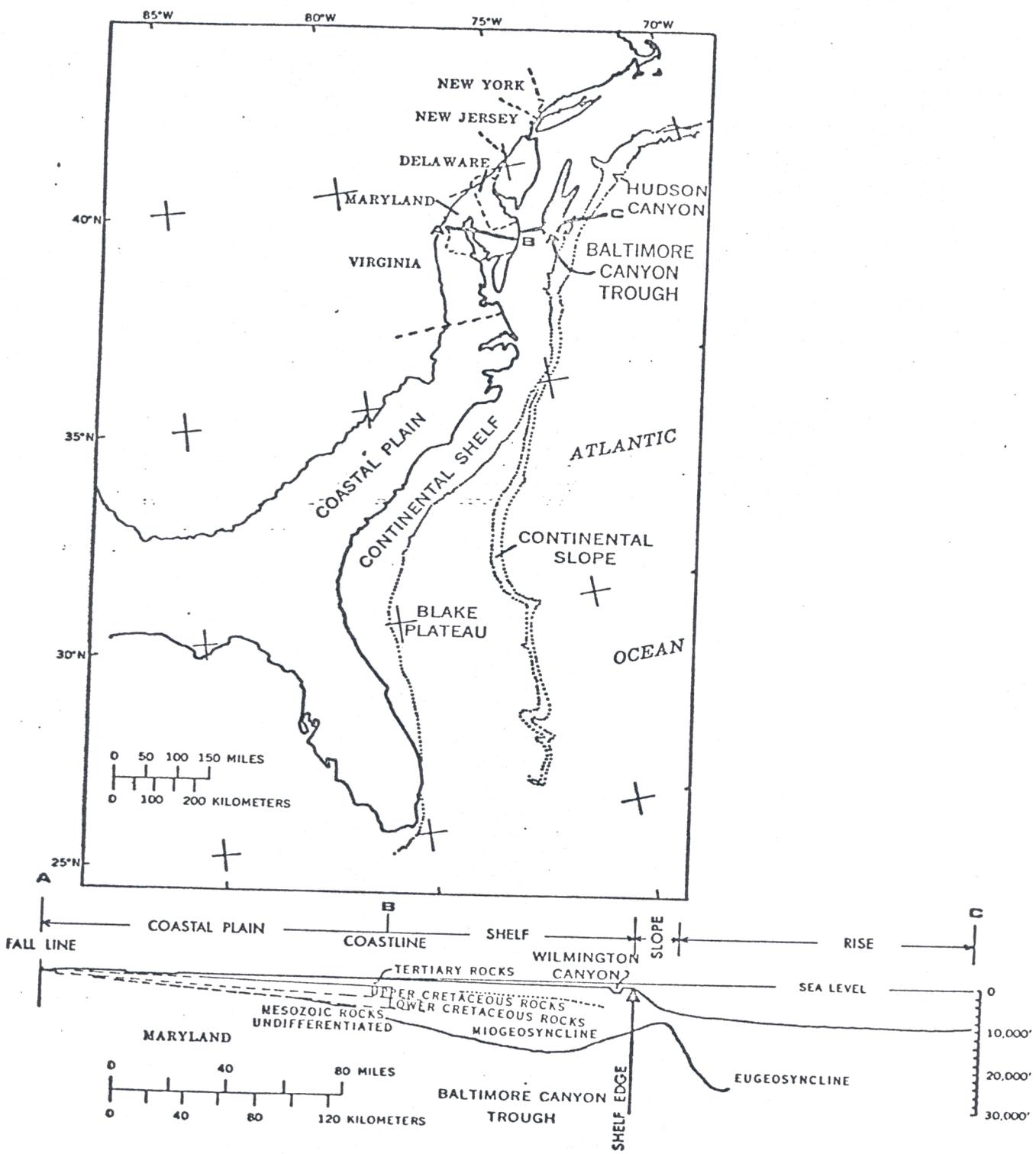
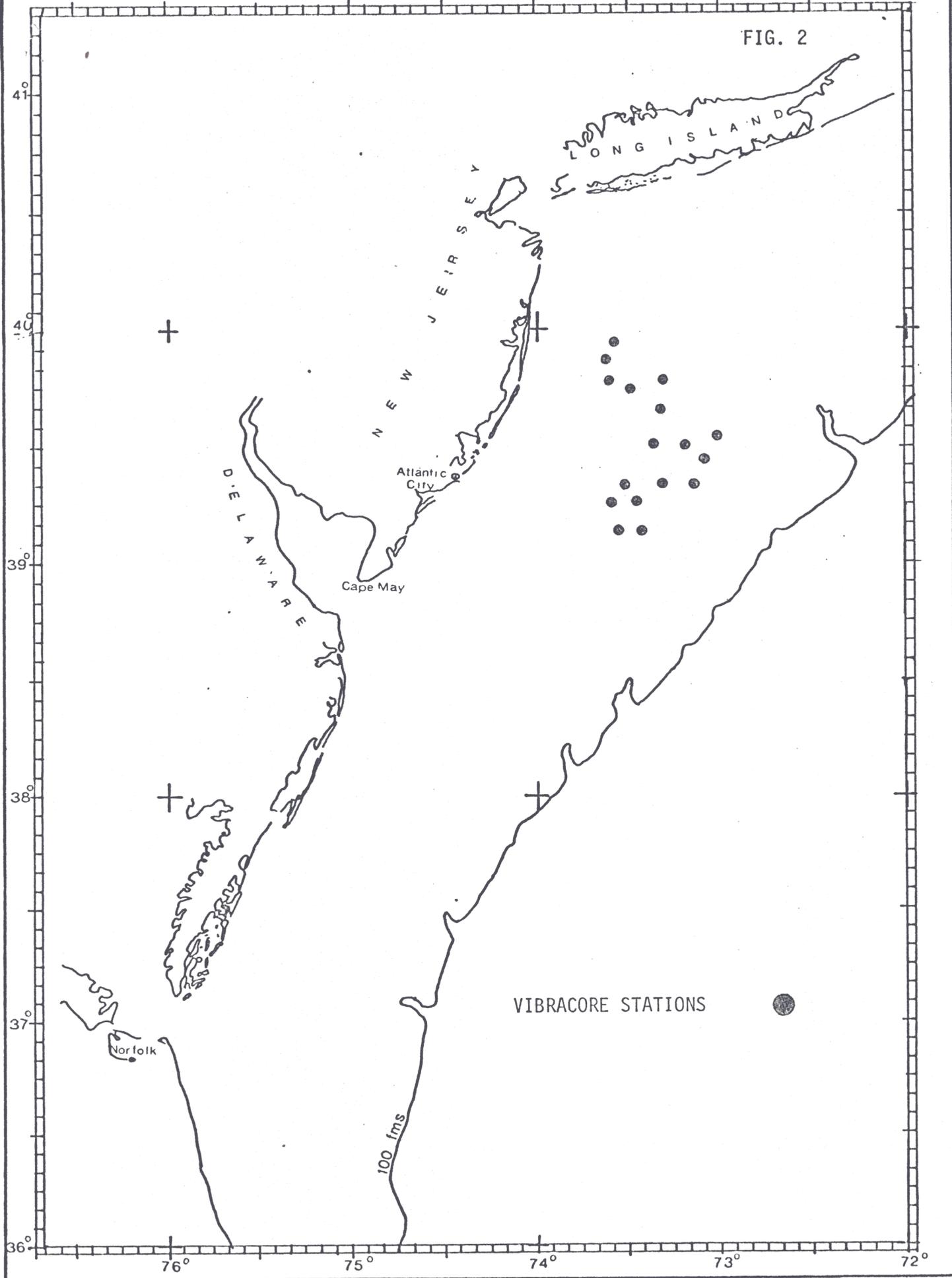


FIG. 2



VIBRACORE STATIONS

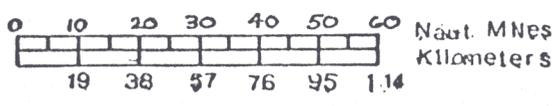
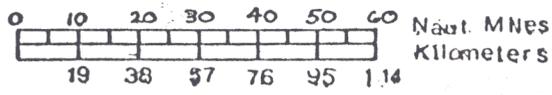
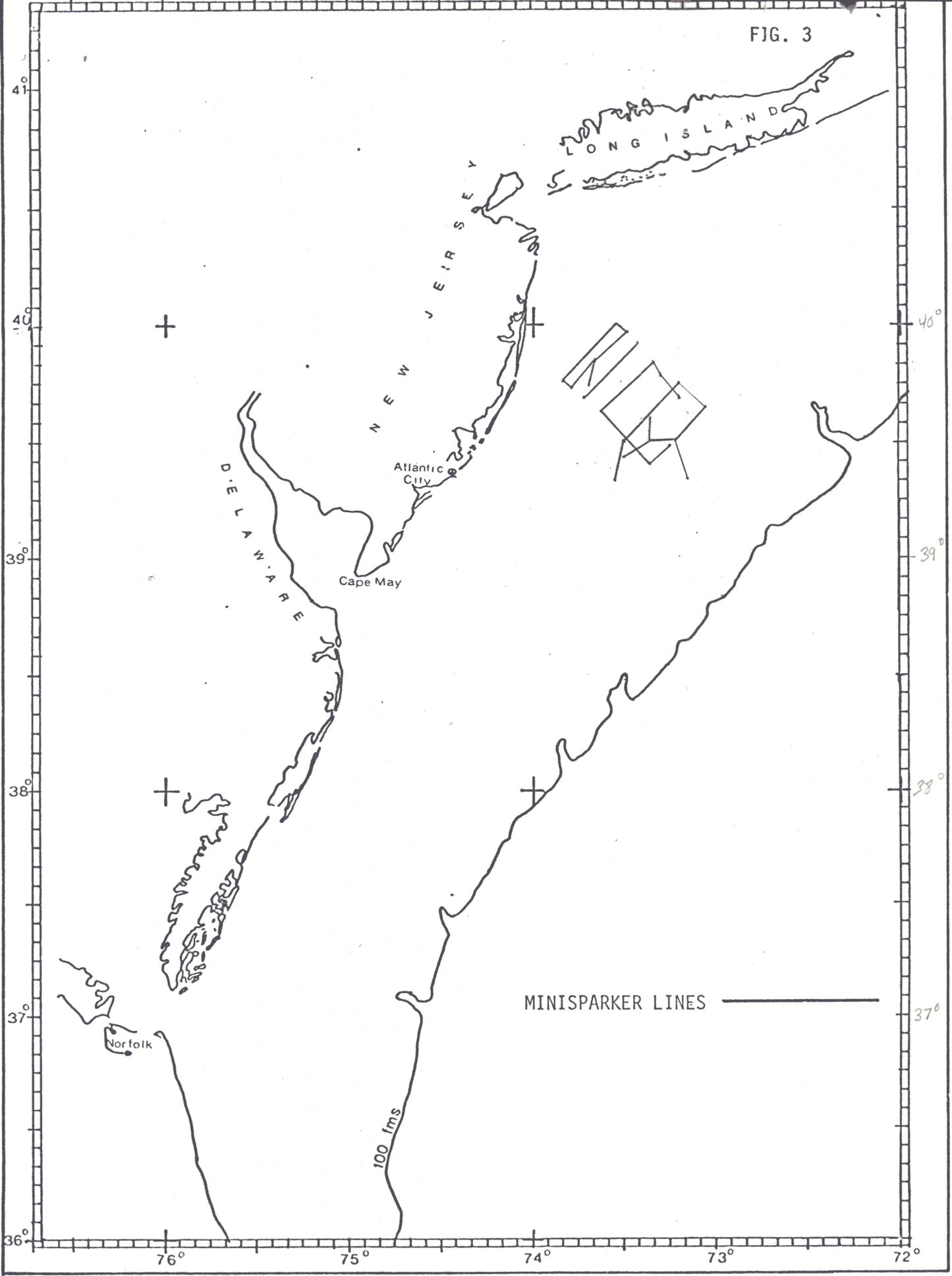


FIG. 3



CHIEF SCIENTIST'S LOG  
CRUISE AN-1-77

DATE	(EDT) TIME	LORAW-C		(°N) Latitude	(°W) Longitude	Remarks
		Nantucket (Y)	Dana (Z)			
9-18-77	1936					Underway from wharf
9-19-77	1401	51127.92	69993.05	39° 57.96	73° 34.75	Anchor On station 4900
	1447	51128.06	69993.11	39° 57.93	73° 34.74	Vibracore (VC-01) on bottom
	1455					Vibracore coming up
	1558	51128.00	69993.06	39° 57.95	73 34.76	Vibracore (VC-02) on bottom
	1602					Vibracore coming up
	1724	51193.82	70021.71	39 51.92	73 37.31	Anchor On station 4901
	1737	51193.60	70021.59	39 51.94	73 37.31	Vibracore (VC-03) on bottom
	1747					Vibracore coming up
	1930	51219.09	70024.83	39 50.20	73 38.99	Minisparkeu deployed
9-20-77	0525	51271.38	70049.30	39 45.26	73 40.75	Minisparkeu secured
	0729	51227.32	70052.30	39 46.97	73 36.28	Anchor On station 4902
	0832	51226.83	70052.23	39 47.00	73 36.24	Vibracore (VC-04) on bottom
	0840					Vibracore coming up
	1015	51201.39	70081.60	39 44.46	73 29.35	Anchor On station 4903
	1040	51200.75	70081.43	39 44.51	73 29.31	Vibracore (VC-05) on bottom
	1049					Vibracore coming up
	1313	51107.72	70091.26	39 46.81	73 18.37	Anchor On station 4904
	1320	51107.49	70091.62	39 46.78	73 18.29	Vibracore (VC-06) on bottom
	1331					Vibracore coming up
	1510	51171.96	70130.82	39 39.61	73 18.94	Anchor On station 4905
	1517	51171.73	70131.10	39 39.59	73 18.88	Vibracore (VC-07) on bottom
	1523					Vibracore coming up
	1712	51252.96	70172.90	39 31.56	73 20.80	Anchor On station 4906
	1734	51253.64	70172.10	39 31.63	73 21.00	Vibracore (VC-08) on bottom
	1740					Vibracore coming up
	1855	51264.51	70180.71	39 30.20	73 20.78	Minisparkeu deployed
	2110	51207.00	70147.16	39 36.34	73 20.04	Minisparkeu secured

DATE	(EDT) TIME	LORAN - C		(°N) Latitude	(°W) Longitude	Remarks
		Nantuxet (Y)	Dana (Z)			
9-21-77	0841	51366.41	70189.58	39 25.47	73 29.95	Minisparker deployed
	1435	51201.38	70192.10	39 31.06	73 12.45	Minisparker secured
	1452	51202.66	70191.66	39 31.08	73 12.61	Anchor On Station 4907
	1527	51202.62	70191.73	39 31.06	73 12.64	Vibracore (VC-09) on bottom
	1531					Vibracore coming up
	1650	51234.12	70198.30	39 29.14	73 14.87	Minisparker deployed
9-22-77	0600	51106.27	70129.30	39 42.19	73 12.43	Minisparker secured
	0820	51104.22	70200.00	39 33.49	73 01.08	Anchor on station 4908
	1231	51105.21	70200.21	39 33.44	73 01.15	Vibracore (VC-10) on bottom
	1234					Vibracore coming up
	1306	51105.10	70200.04	39 33.46	73 01.17	Vibracore (VC-11) on bottom
	1310					Vibracore coming up
	1443	51192.85	70228.20	39 26.91	73 05.78	Anchor on station 4909
	1455	51192.96	70228.06	39 26.92	73 05.81	Vibracore (VC-12) on bottom
	1500					Vibracore coming up
	1553	51192.82	70228.10	39 26.92	73 05.79	Vibracore (VC-13) on bottom
	1557					Vibracore coming up
	1733	51271.02	70265.00	39 19.68	73 07.99	Anchor on station 4910
	1744	51271.41	70265.15	39 19.65	73 08.01	Vibracore (VC-14) on bottom
	1748					Vibracore coming up
1855	51268.79	70260.87	39 20.27	73 08.43	Minisparker deployed	
9-23-77	0600	51430.28	70217.06	39 19.92	73 32.32	Minisparker secured
	0651	51429.12	70216.48	39 20.03	73 32.29	Anchor on station 4911
	0721	51429.22	70216.45	39 20.03	73 32.31	Vibracore (VC-15) on bottom
	0726					Vibracore coming up
	0830	51490.97	70233.90	39 15.77	73 36.02	Anchor on station 4912
	0840	51491.31	70234.22	39 15.72	73 36.01	Vibracore (VC-16) on bottom
	0846					Vibracore coming up
	1007	51534.43	70280.77	39 08.74	73 33.21	Anchor on station 4913
	1015	51534.95	70280.84	39 08.71	73 33.25	Vibracore (VC-17) on bottom
	1141	51489.91	70301.33	39 07.82	73 25.21	Anchor on station 4914
	1152	51490.57	70301.40	39 07.79	73 25.27	Vibracore (VC-18) on bottom
	1156					Vibracore coming up.

LORAN - C

DATE	(EDT) TIME	Nantucket (Y)	Dana (Z)	(°N) Latitude	(°W) Longitude	Remarks
9-23-77	1348	51433.18	70244.00	39 16.62	73 28.41	Anchor On Station 4915
	1355	51433.36	70243.93	39 16.62	73 28.44	Vibracore (VC-19) on bottom
	1400					Vibracore coming up
	1543	51326.20	70240.60	39 20.77	73 17.75	Anchor On Station 4916
	1552	51326.40	70240.34	39 20.77	73 17.81	Vibracore (VC-20) on bottom
	1556					Vibracore coming up
	1947	51322.76	70070.20	39 41.16	73 43.36	Minispartan deployed
	2340	51078.37	70026.14	39 55.89	73 25.00	Minispartan secured
9-25-77	1645					Tied up at WHOI dock

BRIDGE LOG  
CRUISE AN-1-77

20-24

17

US55-MSC

9-18-77

09

Vantana

Tonalonis

Vantana

Grant - Pilot

1935 Underway commence cruise

2025 ABEAM "28"

2047 " " "NA" % 227°

2100 49394 69872 FIX

2200 49494 69876

2300 49596 69880

2400 49695 69885

Watch relieved by Bob Spess

RESPECTFULLY SUBMITTED

REVIEWED AND APPROVED

Jay W. Tantal

WATCH OFFICER

CAPTAIN

00-04

17

USGS-MSC

9/19/77

VANTASSEZ

TOMALONIS

SPROSS

LORAN "C"

0100 49804 69890

0200 49913 69895

0300 50020 69903

0400 50120 69911 WATCH RELIEVED BY BILL FLOHR

RESPECTFULLY SUBMITTED

Bob Jones

APPROVED AND APPROVED

WATER OFFICER

COPIED

04-08

17

USGS-MSC

9-19-77

VAW TASSEL

TOMALONIS

WATCH OFFICER FLOUR

NAVIGATION LORAN C

SEA SWELL

WINDS PROGP

BAR WIND

TIME SL / LAT SEC LONG

0500 50205 69918

0600 50302 69926

0700 50400 69933

0750 50488 69939

Watch returned by Capt

RESPECTFULLY SUBMITTED

William J. Flaherty

REVIEWED AND APPROVED

WATCH OFFICER

CAPTAIN

08-12

17

USGS-MSC

9-19-77

Vantarel

Tonalouis

WATCH OFFICER

Vantarel

NAVIGATION

Serani "C"

SEA

SWELL

WIND

WAVE

BAR

WIND

TIME

SL / LAT

SL / LONG

USIPNOY

0900

50609

69947

1000

50721

69955

1100

50836

69961

1200

watch relieved by Bob Spross

RESPECTFULLY SUBMITTED

REVIEWED AND APPROVED

WATCH OFFICER

Jay W. Vantarel

CAPTAIN

12-16 17 USGS-MSC DATE 9/19/77

VANTASEL

ENGINEER TOMALONIS

WATCH OFFICER SPROSS

NAUTICAL LORAN "C"

TIME	SUN / LAT	SUN / LONG	REMARKS
1300	5104.2	69981	
1350	51128.2	69993.1	ON STAFF <sup>4900</sup> <del>2400</del> 130 FEET
1505	51128.2	69993.2	
1600	51128.2	69993.2	WATCH RELIEVED BY BILL FLOHR

RESPECTFULLY SUBMITTED

*Bob Spross* WATCH OFFICER  
REVIEWED AND APPROVED

CAPTAIN

16-20

17

USGS - MSC

9-19-77

VANTASSEL

CAPTAIN TOMALONIS

WATCH OFFICER FLOHR, JR.

NAVIGATOR LORAN C.

TIME 30 / LAT. 51 19.89 LONG. 70 02.8

1630 UNDERWAY FOR STAT # 4901

1727 51 19.89 70 02.8 STAT. 4901 115 ft

1845 51 19.27 70 02.40 START OF TOW - 3 kts, C 220° T

1900 51 20.20 70 02.21 LAB LORAN C REPORTED OFF

1915 51 21.95 70 02.00

1930 51 21.09 70 02.83 94 ft

1945 51 22.25 70 02.72 92 ft speed increased to 5 kts.

2000 51 24.51 70 03.80

Watch relieved by Capt.  
RESPECTFULLY SUBMITTED

William P. Flohr

REVIEWED AND APPROVED

WATCH OFFICER

CAPTAIN

Van Tassel

Tomalouis

Van Tassel

NAME ADDRESS

John C

DATE

WIND

TIME

50 / 100

50 / 100

WIND

2005

70033.82

51246.17

2015

70035.19

51255.64

2020

70035.90

51260.92

2025

70036.00

51266.58

2035

70036.43

51275.61

2045

70037.42

51285.67

2055

70038.41

51297.12

2115

70042.90

51315.21

2116

70042.80

51316.04

Turning point - begin turn

2118

70042.5

51317.89

Turning point - end turn

2125

70039.40

51318.24

2135

70039.47

51318.03

2145

70027.80

51317.71

2151

70024.48

51317.62

Turning point - begin turn

2152

70024.05

51316.41

Turning point - end turn

2155

70023.70

51313.46

2205

70022.10

51302.37

~~51302.37~~

2225

70018.25

51282.04

2235

70016.67

51271.76

2245

70014.65

51261.52

RECEIVED JULY 20 1977

2255

70013.04

51251.66

2305

70011.95

51240.92

RECEIVED AND APPROVED

2315

70009.88

51231.05

WATER OFFICER

John W. Van Tassel

CAPTAIN

20-24

17

CSGS-MSc

9-19-77

Van Tassel

Tomaloni

Van Tassel

Loan "c"

2325 70008.25 51221.15

2340 70005.20 51204.44

2345 70004.81 51200.79

2355 70003.02 51190.31

Watch received by Bob Spross

RESERVED SUBMITTED

RECEIVED BY ROBERT

W. G. H. H. H. H.

Jayce Van Tassel

Pg 2 of 2

VAN TASSEL

TOMALONIS

SPROSS

LORAN "C"

0005	51179.31	70001.30	
0015	51168.79	69999.60	
0025	51157.77	69997.62	
0035	51147.60	69996.18	
0045	51136.86	69994.19	
0055	51126.11	69992.64	
0105	51115.81	69990.79	
0115	51104.02	69988.89	
0125	51095.11	69987.50	
0135	51085.30	69985.93	
0138	51082.02	69985.57	TURNING POINT - BEGIN TURN
0140	51080.98	69986.16	TURNING POINT - END TURN
0145	51080.86	69988.50	
0155	51080.17	69993.43	
0205	51079.45	69998.29	
0215	51078.95	70003.02	TURNING POINT - BEGIN TURN
0217	51080.37	70004.10	TURNING POINT - END TURN
0225	51088.68	70005.70	
0235	51097.35	70007.30	
0245	51107.24	70008.89	
0255	51116.96	70010.39	
0305	51126.80	70011.72	
0315	51136.39	70013.70	

VANTASSEL

TOMALONIS

SPROSS

LORAN "C"

0325 51147.32 70015.80

0335 51156.91 70017.47

0345 ~~51167.03~~ 70019.43

0355 51177.41 70021.11

0400

WATCH RELIEVED BY BILL FLOWR

*Bob Spross*

04-08

17

USGS-MSC

9-20-77

VANTASSEL

0400

TOMALONIS

CALM

1/2 FT

FLOHR

-

NONE

LORAN C

1011 MB

~~0400~~  
0407 51188.87 70023.23

0415 51197.68 70024.77

0425 51206.24 70027.70 C/C to 202°T

0435 51215.88 70031.02

0445 51224.41 70034.48

0455 51234.34 70038.68

0505 51242.86 70041.95

0515 51252.19 70045.64

0525 51261.24 70048.70

0535 51271.38 70052.30

0550 - SLOWED TO 4KTS  
TO BRING IN GEAR.

0545 51280.18 70055.84

0555 51288.11 70058.92

~~0600~~

0557 51290.59 70060.06 UW FOR R"B" TO

CALIBRATE LORAN C

R"B" Chart Position 51302.00 70037.50

R"B" BRIDGE LORAN POSITION 51300.13 70034.98

0700 51257.0 70044.0

0790 51227.54 70052.31 127°T

STAT  
902

*Wm J. Stokely*  
*Jerry W. Vanland*

08-12

17

USGS-MSC

9-20-77

Van Tassel

Tomeloni

Van Tassel

Sanic

0925	70052.8	51224.6	finish Station	4902
1017	70081.66	51201.39	Station	4903 141 ft
1100			watch relieved by Bob Spross	

Jay W. Van Tassel

12-16

17

USGS-MSC

9/20/77

VANTASSEL

TOMALONIS

SPROSS

LORAN "C"

1300	51122	70089	
1312	51108.16	70091.41	AT ANCHOR MAINS DOWN 142 FEET
1405	51107	70092	STA COMPLETE MAINS UP & 1850
1500	51159	70126	
1510	51172.92	70130.95	AT ANCHOR - MAINS DOWN - 139 FEET
1605	51172	70131	STA. COMPLETE - MAINS UP WAT CN RELIEVED BY BILL FLOOR

Bob Spross

16-20

17

USGS - MSC

9-20-77

VANTASSEL

1700

TUMALONIS

1-3 ft

2-3 ft

FIOHR

LORAN - C.

1012.2 mb.

1604

UW STAT 4906

1714

51253.17

70172.92

STAT # 4906 - 120 ft.

1845

51257.1

70174.2

UW to start rain

Running 170° 4 Kts to set gear up

1917

51258.88

70175.56

9/c to 360°

1924

51255.50

70173.92

9/c to 010°

1930

51252.75

70172.49

START C 010° T SPEED 2 3 Kts.

1940

51248.11

70170.00

1950

51243.46

70167.44

2000

51239.73

70165.10

watch relieved by Capt

W. L. Shober Jr.

RELEASED AND RETURNED

20-24

17

45GS-145C

9-20-77

Van Tassel

2000

Tomeloxio

N-2-3 ft

N-4-5 ft

Van Tassel

N/A

0

Loan "C"

10130 mb

N-20-25 ft

4 NM

2010 70162.20 51235.58

2020 70159.61 51231.26

2030 70157.50 51227.39

2040 70154.90 51222.09

2100 70150.00 51212.59

2110 70148.20 51208.91

2120 70145.93 51203.97

2125 70144.94 51201.99

Breakoff profiling c/c 180° running  
with new well

2200 70152 51226

2300 70163 51270

2400 70174 51324

Watch relieved by Bob Spors.

RECEIVED AND APPROVED

RECEIVED AND APPROVED

Jerry W. Van Tassel

00-04

17

USGS-MSC

9/21/77

VANTASSEL

TOMALONIS

SPROSS

LORAN "C"

0100

51370

70182

0200

51422

70191

0300

51463

70199

0400

51505

70208

WATCH RELIEVED BY BILL FLOHR

Bob Spross

RECEIVED AND APPROVED

04-09

17

USGS - MSC

9-21-77

VANTASSEL

0500

TOMMALONIS

2 ft

2-3 ft

FLOHR, JR.

NONE

LORAN - C

1015.7 mb.

16 KTS

0500	51478	70210
0530	51461	70203
0600	51445	70201
0700	51417	70197
0755	51390	70193

Watch relieved by Capt.

Wm L. Flohr

08-12

17

USGS-MSC

9-21-77

Van Tassel

0800

Tomalouis

Sea N 2-3

NS - 5-6

Van Tassel

8/8

0

bran 'c'

1017.1 mb

16 Kts.

2-3 NM.

0840 70190.28 51368.91

deploy marker + streamer use 049T

0850 70189.19 51363.27

1000 70185.59 51333.64

1105 70182.30 51309.70

1200 70179.37 51288.99

watch retained by bob Sparr

RESPECTFULLY SUBMITTED

APPROVED AND FORWARDED

Jerry W. Van Tassel

VANTASSEL  
 TOMALONIS  
 SPROSS  
 LORAN "C"  
 SLOTTONE

1254 51253.42 70172.96 TURNING POINT - BEGIN TURN  
 1255 51252.71 70173.30 TURNING POINT - END TURN  
 1205 51249.08 70175.48  
 1215 51244.33 70177.90  
 1225 51239.92 70180.27  
 1238 51234.53 70183.29  
 1245 51231.12 70185.12  
 1249 COURSE CORRECTION 090°  
 1355 51225.20 70186.69  
 1405 51219.40 70188.17  
 1415 51213.79 70189.41  
 1425 51208.13 70190.52  
 1435 51201.61 70192.20 SEISMIC GEAR BEING SECURED  
 MAINS DOWN  
 1455 51202.65 70191.82 AT ANCHOR STATION 147 FEET  
 1600 51202 70191 WATCH RELIEVED BY BILL FLORE  
 1605 STB MAIN ON LINE

RESPECTFULLY SUBMITTED  
 REVIEWED AND APPROVED WATCH OFFICER  
 CAPTAIN

16-20

17

USES - MSC

9-21-77

VANTASSEL

TOMALONIS

FLOHR, JR

LORAN C

040 1018.7

0100

TIME REL/LAT. SENSITIVE UNIDENTIFIED

1650 51232.86 70197.99 C 225° 3 5 Kts -

1700 51243.57 70200.30

1710 51256.19 70202.70

1720 51268.91 70205.19

1730 51281.00 70207.49

1740 51293.88 70209.84

1750 51303.90 70211.62

~~1800~~ 51311.04 70212.90

c/c to 315

1903 51312.60 70210.47

1810 51312.59 70207.47

1820 51313.45 70203.06

1833 51313.63 70201.29 c/c 325

1830 51313.07 70198.78

1837 51312.64 70195.68 c/c back to 315

1840 51312.99 70194.44 c/c 320-322

1850 51313.00 70190.00 c/c 330

~~1900~~ 51312.62 70185.42

~~1907~~ 51312.23 70181.99 c/c 320

~~1910~~ 51312.20 70181.01

↑  
4.5 Kts  
↓

RESPECTFULLY SUBMITTED

REVIEWED AND APPROVED

WARRN OFFICER

CAPTAIN

16-20

17

USGS-MSF

9-21-77

Van Tassel  
Tonalonic  
Floh.

1920	5131215	70176.85	
1930	51312.13	70172.44	
1940	51311.79	70167.66	c/c 315
1950	51313.31	70162.56	
2000	51313.31	70158.23	

RECEIVED BY SUBMITTED  
*Wm L. Shroy*  
 WASH DC  
 RECEIVED AND APPROVED

20-24

17

4565-MSC

9-21-77

Van Tassel

2100

Tomalouis

N-2-3

NE 4-6 ft

Van Tassel

0

Soran C

1020.9 mb

N-10-15

8 N.M.

2023	70147.59	51312.38
2030	70143.49	51312.09
2040	70138.49	51311.99
2105	70132.69	51313.46
2130	70126.52	51315.88
2140	70125.00	51316.34
2150	70119.69	51315.66
2200	70114.02	51315.03
2210	70109.95	51314.37
2225	70101.35	51313.44
2230	70100.53	51309.25
2240	70098.60	51299.68
2250	70096.79	51290.38
2300	70094.62	51279.42
2310	70092.90	51270.84
2320	70091.04	51260.61
2330	70089.56	51251.82
2340	70088.30	51245.69
2347	70086.86	51238.25
2400	Watch relieved by Bob Sprou	

commence turn to 045°

reduced speed to adjust Sparker.

RESPECTFULLY SUBMITTED

REVIEWED AND APPROVED

Jerry W. Van Tassel

00-04

17

USGS-MSC

9/22/77

VANTASSEL

TOMALONIS

SPROSS

LORAN "C"

			TIME	SL/LAT.	SLR/LONG.
0015	51230.87	70084.23	0345	51080.18 TURNING POINT-	70061.41 BEGIN TURN
0025	51224.30	70082.94	0352	51075.36 TURNING POINT-	70061.13 END TURN
0035	51217.27	70081.61	0354	51074.25	70061.75 c/c 168°
0045	51210.26	70080.30	0400	WATCH RELIEVED BY BILL FLOMR	
0055	51202.03	70079.18			
0105	51195.66	70078.00			
0115	51188.27	70076.90			
0125	51180.89	70075.79			
0135	51173.79	70074.84			
0145	51167.01	70073.85			
0155	51159.91	70072.90			
0205	51152.76	70071.83			
0215	51145.74	70070.78			
0225	51139.07	70069.92			
0235	51131.90	70068.84			
0245	51124.65	70067.71			
0255	51117.28	70066.30			
0305	51110.07	70064.88			
0315	51102.52	70063.42			
0325	51094.92	70062.00			
0335	51087.58	70061.33			

RESPECTFULLY SUBMITTED

*Bob Spross*

WATCH OFFICER

USCGC WMEC 1100

CAPTAIN

04-08

17

USCG - MSC

9-22-77

VANTASSEL

TOMALOMIS

FLOHR

LOREN C

0405	51080.34	70067.56
0415	51085.64	70072.48
0425	51091.03	70077.83
0435	51097.06	70083.54
0445	51103.33	70089.89
0450	51105.32	70092.29
0455	51104.64	70094.63
0505	51104.87	70099.95
0515	51106.03	70105.80
0525	51106.78	70111.01
0535	51107.47	70117.73
0545	51107.04	70122.09
0555	51106.60	70127.25
0624	51103.68	70136.60
0700	51106	70160

TURNING POINT ~~BEHIND TURN~~  
9C 134°

UW STW 59.09

RESPECTFULLY SUBMITTED

*Wm J. Flohr*

WARM WATERS  
REVIEWED AND APPROVED

CAPTAIN C

08-12

17

USGS-MSC

9-22-77

Van Tassel

Tonalowis

Van Tassel

Loan "C"

0900	51105.26	70200.36	at Station	4908	219 ft	at anchor
1000	51105.28	70200.45				
1100	51105.28	70200.40				
1200	51105.27	70200.24	watch relieved by Bob Sprows			

RECEIVED AND APPROVED

RECEIVED AND APPROVED

WATCH OFFICER

Jay W. Van Tassel

12-16

17

USGS-MSC

9/22/77

VANTASSEL

TOMALONIS

SPROSS

LORAN "C"

1300	51104	70200	AT ANCHOR
1345	51104	70199	MAINS ON LINE
1355			ANCHOR UP UNDERWAY STA <sup>4909</sup> <del>409</del> ck 205
1443	51192.06	70228.17	AT ANCHOR STA 4909 222 FEET MAINS DOWN
1600	51193.04	70228.10	WATCH RELIEVED BY BILL FLOHR

RESPECTFULLY SUBMITTED

*Bob Sprou*

RECEIVED AND RETURNED

U.S. GEOLOGICAL SURVEY

CAPITAL

16-20

17

USGS - MSC

9-22-77

VANTASSEL

1615

TOMALONIS

WATCH OFFICER Flohr, Jr.

NAVIGATION LORAN - C

1023.2

TIME / LAT. / LONG. / MS

1615	51192.0	70228	UW FOR 4910
1734	51271.31	70264.92	STAT 4910 212 ft
1839	51272	70265.	UW FOR SEIME. TOW
1845	51272.42	70264.64	C 342° 3 kt.
1855	51268.41	70260.39	
1905	51263.94	70256.31	
1915	51258.28	70251.11	
1926	51252.39	70245.51	~ 5 1/2 kt
1935	51248.11	70241.64	
1945	51243.54	70237.27	
1955	51238.20	70232.34	

RESPECTFULLY SUBMITTED

Wm J Flohr  
REVIEWED AND APPROVED

WATCH OFFICER

CAPTAIN

20-24

17

USGS-MSC

9-22-77

Van Tassel  
Tomalouis  
Van Tassel  
Sorau C'

2020	51225.76	70220.9
2030	51221.31	70216.15
2040	51216.75	70210.75
2050	51212.13	70205.60
2100	51208.36	70200.60
2110	51204.60	70195.54
2118	51200.84	70191.59
2120	51198.71	70191.31
2130	51190.29	70189.81
2140	51180.45	70188.10
2150	51170.07	70186.12
2200	51159.27	70184.02
2230	51133.89	70178.43
2300	51108.31	70173.43
2330	51079.94	70168.62
2342	51068.86	70166.26
2400	51069.58	70157.75

Turning point STAT # 4907  $\% 046^{\circ}$

Turning point cre change to  $315^{\circ}$   
watch relieved by Bob Spross

RESPECTFULLY SUBMITTED

REVIEWED AND APPROVED

Jay W. Nantard  
CAPTAIN

VANTASSEL

TOMALONIS

SPROSS

LORAN "C"

0030	51069.96	70142.60	
0100	51070.64	70127.24	
0129	51071.71	70111.92	TURNING POINT - BEGIN TURN
0131	51073.06	70112.07	TURNING POINT - END TURN
0200	51113.94	70118.17	
0230	51157.63	70126.70	
0300	51199.70	70134.82	
0330	51243.24	70143.45	
0400	51284.39	70151.46	WATCH RELIEVED BY BILL FLOHR

RESPECTFULLY SUBMITTED

*Bob Jones*  
REVIEWED AND APPROVED

WARTH  
CAPTAIN

04-08

17

USGS-MSC

9-23-77

VANTASSEL

TOMALOWIS

FLOHR

LORAN - C.

1023.2

0419	51309.75	70156.96	1/2 191	TURNING PT. BEGIN
0420	51312.38	70157.55		END
0430	51323.30	70162.91		
0500	51358.29	70180.51	SPEED	7 Kts.
0530	51393.57	70198.51		
0600	51429.83	70216.65	OVER	STAT # 4911
			Pulling gear in.	
0655	51429.19	70216.50	ANCHORED	STAT # 4911
			160 ft -	
0810	51448.04	70221.39		

Watch relieved by Capt

RESPECTFULLY SUBMITTED

*Wm J Flohr*

REVIEWED AND APPROVED

WATCH OFFICER

STAT #

08-12

17

USGS-MSC

9-23-77

Van Tassel

Tomalonia

Van Tassel

Loan "c"

0830

51491.25

70234.21

Station 4912 153 feet

1000

51524

70274

underway course 180°

1007

51534.65

70280.97

Station 4913 166 feet

1100

Underway for Station 4914 on 103°T

1130

51499.82

70298.51

1140

51489.98

70301.42

Station 4914 185 feet

1200

watch relieved by Bob Smors.

RESPECTFULLY SUBMITTED

REVIEWED AND APPROVED WATCH OFFICER

Jerry W. Van Tassel

12-16

17

US65-M3C

9/23/77

VANTASSEL

TAMALONIS

SPROSS

LOZAN "C"

1235	51489	70299	ANCHOR UP - UNDERWAY STA 4915 - CLK 344 <sup>0</sup>
1300	51460	70271	
1347	51433.08	70244.05	ON STA 4915 - AT ANCHOR 166 FEET
1436	51433	70243	ANCHOR UP - UNDERWAY STA 4916 - CLK 064 <sup>0</sup>
1500	51397	70244	
1542	51326.40	70240.54	AT ANCHOR STA 4916 - 168 FEET
1600	51326.26	70240.50	WATCH RELIEVED BY BILL FLONR

RESPECTFULLY SUBMITTED

*Bob Flonr*

INCORPORATED AND APPROVED

WATCH OFFICER

CAPTAIN

16-20

17

USGS-MSC

9-23-77

VANTASSEL

1800

TOMALONIS

FLOHR, JR.

LORAN - C -

1023.1

1610	51312	70201
1720	51309	70191
1800	51296	70154
1830	51298	70124
1900	51303	70102
1950	51319.44	70068.88
1955	51317.48	70067.69
2000	51310.60	70066.50

C 000° Speed 5 KTS - seismic tow out.

C/C 045° TURNING POINT

Watch relieved by Capt  
*Wm L. Flohr Jr.*  
 WATCH OFFICER

SUPPLANT

20-24

17

USSS-MSC

9-23-77

Van Tassel

2200

Tomalonia

State 2

N-12 ft

Van Tassel

8/8

height main

Loan "C"

1023.0 mb

NW-10-12 lbs

6 NM

on track line are 045°T

2010	51299.78	70064.90
2020	51289.94	70063.29
2030	51278.09	70061.25
2040	51267.98	70059.26
2050	51257.54	70057.60
2100	51247.17	70055.54
2110	51236.30	70053.75
2120	51226.08	70052.19
2130	51215.03	70050.30
2140	51206.49	70048.40
2150	51196.50	70047.25
2200	51184.47	70045.30
2210	51175.31	70043.67
2220	51165.25	70042.09
2230	51157.39	70039.55
2300	51128.85	70034.24
2320	51103.09	70030.40
2330	51092.85	70028.49
2340	51080.59	70026.32
2342	51079.15	70026.23
2400	watch relieved by Bob Spross	

continue track line are 045°T

Terminate track line

Jay W. Van Tassel

00-04

17

USGS-MSC

9/24/77

YANTASSEL

TOMALONIS

SPROSS

LORAN "C"

TIME

51059.09

0001

70023.90

0010

51046.95

70022.41

0018

51039.39

70021.60

SEISMIC GEAR BEING SECURED

0030

51033

70020

UNDERWAY FOR WOODS HOLE - C/COS

0110

50962

70012

0200

50869

70001

0300

50779

69989

0400

50668

69978

WATCH RELIEVED BY BILL FLOHR

RESPECTFULLY SUBMITTED

*Bill Flohr*

RECEIVED AND APPROVED

WATCH OFFICER

CAPTAIN

08-12

17

USGS-MS

9-24-77

Van Tassel

0900

Tomalouis

State 5 SE

4-5 ft SE

Van Tassel

8/8

0

Loran "C"

1021.5

SE 20-25 kts

3 NM

0900 50163.12 69940.04

1000 50076 69930

1100 50001 69911

heading for shelter at Montauk  
sea state 6 winds gusting to 40 kts.

1130 49966 69895

1200 49925 69880

watch relieved by Bob Spross

RESPECTFULLY SUBMITTED

REVIEWED AND APPROVED

WATCH OFFICER

James W. Van Tassel CAPTAIN

12-16

17

USGS-MISC

9/24/77

VANTASSEL

TOMALONIS

SPROSS

LOZAN "C"

0300 49856 69862

0400 49790 69846

1510 49758 69852

AT GT. SALT POND - BLOCK 15.

1515 AT ANCHOR

1600 49758.47 69852.70

AT ANCHOR - WATCH RELIEVED BY BILL FLORE

1700 49758.42 69852.70

1800 49758.40 69852.60

1900 49758.44 69852.43

at anchor

RESPECTFULLY SUBMITTED

*Bob Jones*

WATCH OFFICER

RECEIVED AND APPROVED

*Jay W. Vantassel*

APPROVED

2100	69852.49	49758.61
2200	69852.41	49758.50
2400	69852.50	49758.49

at Anchor  
 at Anchor  
 at Anchor with relieved  
 by Bob Spross

RECEIVED - UNARMED

RECEIVED AND APPROVED - WITH OFFICE

*James T. [unclear]*  
 APPROVED

04-68

17

0595-MSC

9/24/77

VANTASSE

ROMA LOMI

Flohr

LOTHAN C-

0430	50593	<del>50</del> 69971
0500	50550	69967
0600	50441	69958
0700	50349	69952
0800	50267	69946

RET SPECIMEN 101 54 11 10  
*Wm J. Bohle Jr*  
 DIRECTOR OF THE BUREAU OF LAND MANAGEMENT

00-04

17

USGS-MSC

9/25/77

VANTASSEL

TOMALONIS

SPROSS

LOREN "C"

0100	49758.49	69852.36	AT ANCHOR
0200	49758.59	69852.42	AT ANCHOR
0300	49758.42	69852.38	AT ANCHOR
0400	49758.48	69852.38	AT ANCHOR - WATCH RELIEVED BY BILL FORD

RESPECTFULLY SUBMITTED



WATCH OFFICER

RECEIVED AND APPROVED

CAPTAIN

VANTASSEL

0500

TOMALONIS

FLOHD

LORDAN C

1022.4

0500	49758.48	69852.44
0600	49758.40	69852.38
0700	49758.39	69852.44
0800	49758.55	69852.65

Wm J. [Signature]

CAPTAIN

08-12

17

US65-MSC

9-25-77

Van Tassel  
Tomalonia  
Van Tassel  
Screw C

0930

8/8

rain

1022.2 mb

ESE 30-40

3 NM.

0930

Preparing to get underway from Block Island to Woods Hole

0955

Underway

1035

above buoy IBI c/c 075°T

1100

69835.60

49700

1130

69838

49660

1200

69841

49619

1230

69848

49581

1300

69858

49546

1335

69858

49502

1400

69857

49466

1430

69866

49424

1440

Watch retrieved by Bob Spross

RESPECTFULLY SUBMITTED

RECEIVED AND APPROVED

WATCH OFFICER

Jay W. Van Tassel  
CAPTAIN

12-16

17

USGS-MSC

9/25/77

VINTASSEL

TOMACONIS

SPROSS

LORAN "C"

1500 49380 69868

1600 49309 69865

1645

Secure w.H.O.I.

RESPECTFULLY SUBMITTED

MARK G. ...

BRUNED ...

CAPTAIN